

LIVSHITS, G. Sh.

USSR/Geophysics

Card 1/2

Pub. 22 - 15/52

Authors :

Livshits, G. Sh.

Title :

A short method for determination of the coefficient of the transparency of the earth atmosphere by the brightness of the sky when the earth is covered with snow

Periodical :

Dok. AN SSSR 100/2, 251-253, Jan 11, 1955

Abstract :

The so-called "short method" (slightly modified) is suggested for the determination of the transparency of the earth atmosphere through the brightness of the sky at any earth albedo.

Institution :

Acad. of Scs. of the Kaz. SSR, Astrophysical Institute

Presented by :

Academician V. G. Fesenkov, October 12, 1954

Periodical : Dok. AN SSSR 100/2, 251-253, Jan 11, 1955

Card 2/2 Pub. 22 - 15/52

Abstract : The mentioned modifications are related to the experimental formulas for the p-s (transparency), where instead of $p = 0.973 - 9.8 \mu(60)$ and $p = 0.977 - 14.03 \mu(90)$, the following expressions should be used respectively:

$$p = 0.973 - 9.8 \frac{\mu(60) \cdot 4.6(60)}{25 m}, \quad p = 0.977 - 14.03 \frac{\mu(90) \cdot 0.6(90)}{25 m};$$

For localities for which the $20 \leq 80$, these two formulas can be combined into one

$$p = \frac{13.5 [\mu(90) - \mu(60)] + 14.03 \mu(90)}{4.28 \mu(60)}$$

The comparative table of atmosphere transparency determined by the two methods (Burger's & the formula) shows the applicability of the formula. Three USSR references (1923-1952). Table

LIVSHITS, Gersh Shimanovich, kandidat fiziko-matematicheskikh nauk;
IL'YASHENKO, K.V., redaktor; TURUBAYEV, B., tekhnicheskiy redaktor

[The possibility of interplanetary flights] O vozmozhnosti mezh-
planetnykh poletov. Alma-Ata, Kazakhskoe gos. izd-vo, 1956. 44 p.
(Interplanetary voyages) (MIRA 10:3)

LIVSHITS, G. Sh.

SR/Physics of the Atmosphere - Atmospheric Optics, M-5

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 36190

Authors: Livshits, G. Sh.

Institution: None

Title: Certain Results of Electrophotometry of the Daytime Bright Sky

Original

Periodical: Izv. Astrof in-ta AN KazSSR, 1956, 2, 131-143

Abstract: A detailed description of a procedure for measuring the brightness of the sky with the aid of a selenium photocell with 4 filters for the visible portion of the spectrum. The work is based on the development by Ye. V. Pyaskovskaya-Fesenkova. From the measured values of the brightness of the cloudless sky in the almucantar of the sun and of the brightness of a gray screen of known albedo, oriented perpendicular to the rays of the sun, a calculation was made of the scattering pattern in the absence of snow cover. The scattering patterns are represented in tables and graphically. The variations of the brightness of the clear sky in the presence of a

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USSR/Physics of the Atmosphere - Atmospheric Optics, M-5

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 36190

Abstract: snow cover yield too high a value of the brightness of the sky, owing to the light reflected from the snow. An equation is given, based on the empirical relationship by Ye. V. Pyaskovskaya-Fesenkova, expressing this additional brightness due to the reflected radiation in terms of values of the observed brightness of the sky in the presence of snow at 2 points of the almucantar, located 60° and 90° away from the sun.

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Larsen, C. St.

EE

W-1

LIPSHITS, G.Sh.

Brightness of a cloudless sky as affected by a snow cover. Inv. Astro-
fiz. inst. AN Kazakh. SSR 4 no.5/6:161-218 '57. (MIRA 10:4)
(Atmospheric transparency)

LIVSHITS, G.Sh.

Changes with altitude in light scattering functions in the earth's atmosphere and the brightness of the day sky [with summary in English]. Izv.Astrofiz.inst. AN Kazakh.SSR 5 no.7:123-128
'57. (MIRA 10:7)

(Light--Scattering) (Atmospheric transparency)

LIVSHITS, G.Sh.

Indicatrix of light scattering in the atmosphere in the nearest
infrared region of the spectrum [with summary in English]. Izv.
Astrofiz. inst. AN Kazakh. SSR 7:65-73 '59. (MIRA 11:7)
(Light--Scattering)
(Atmosphere--Spectra)

22395

S/O35/61/000/005/030/042
A001/A101

8,2500

AUTHOR: Livshits, G. Sh.

TITLE: Brightness of objects in shadow of lunar elevations

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 5, 1961, 68, abstract 5A452 ("Uch. zap. Alma-Atinsk. gos. ped. in-t", 1958 (1959), v. 12, no. 2, 194 - 196)

TEXT: The author rejects the opinion, published in the literature, that complete darkness exists in the shadow of the lunar mountains, and in consequence, even the nearest objects are not visible. He calculates the scattered luminance and brightness of a vertical surface located at altitude h over the lunar surface and parallel to the shadow border. It was assumed that the lunar surface illuminated by the Sun has the brightness of the order 0.2 stilb and scatters light according to Lambert's law, and the object in the shadow scatters 50% of incident rays and is also orthotropic. It turned out that in the proximity of the shadow border the object will have a brightness of $\sim 10^{-2}$ sb and at a distance of 200 m from the shadow border its brightness will be $\sim 10^{-3}$ sb, whereas the brightness of a horizontal surface in the shadow will be close to zero. Brightness and visi-

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Brightness of objects in shadow of lunar elevations

S/035/61/000/005/030/042
A001/A101

bility of the object increase with altitude h . If the elevation, which scatters the light incident onto the object, illuminated by the solar rays is covered with roughness, the brightness of an object in the shadow will be higher. The author lists conditions which improve the visibility of lunar elevations in the shadow for an observer being on the lunar surface: absence of atmospheric haze, fluctuations of the atmosphere, etc.

N. Orlova

[Abstracter's note: Complete translation]

Card 2/2

LIBRARY 15, 1977

3(1)	PLASMA I BOOK EXPLANATION	807/5038
	Abdetya and Shakhbayev. Astrophysical Institute Dnepropetrovsk, vol. VIII (News of the Astrophysical Institute, Dnepropetrovsk Science, vol. 8) Alma-Ata, Kazan Akademiya Nauk, 1977. 850 copies printed.	
	Ma.: P. D. Omelchik, and Yu. S. Kuznetsov. Tech. Ed.: Z. P. Borokhov; Editorial Board: O. M. Talis, R. G. Karlov, Z. V. Karyagina (secretary), D. A. Bukharov, V. G. Ponomarev (resp. Ed.).	
	PREFACE: This collection of articles is intended for geophysicists and astronomers.	
	CONTENTS: This collection of articles in astronomy contains studies on the distri- bution of asteroids as revealed by isotopic light characteristics, the distortion of the luminosity curve of a variable star, the integrals of motion of an in- terstellar gas, the electromagnetic mechanism in solar prominences, sky polariza- tion in the Lyman-alpha, Lyman-beta, Lyman-gamma, Lyman-delta, Lyman-epsilon and Lyman-zeta regions, the Lyman-alpha, Lyman-beta, Lyman-gamma, Lyman-delta, Lyman-epsilon and Lyman-zeta regions, the Lyman-alpha, Lyman-beta, Lyman-gamma, Lyman-delta, Lyman-epsilon and Lyman-zeta regions. References follow individual articles.	
	Karyagina, Z. V. Transparency Coefficients of the Atmosphere in the Ultra- violet by Observing Several Stars	53
	Bukharov, R. G. The Yellow Coronal Line 5694 From Observations Outside Earth's Atmosphere	59
	Chadov, S. O. Electromagnetic Mechanism of Ejecting Solar Prominences	64
	Karyagina, Z. V. The Low-Latitude Aurora of September 29-30, 1977	68
	Omelchik, P. D. Spectral Photometry in the Red Spectrum Part of the Lyman-alpha Region on Sept 29-30, 1977	79
	Kuznetsov, Yu. S. Some Data on Polarization in the Sky in Southern Egypt	82
	Ma.: P. D., O. M. Talis, and Z. P. Borokhov. Projector Studies of the Intensities of Light Scattering	96
	Ma.: P. D. Spectrophotometer Equipped With an Automatic Spectrum Recorder	108

23934

S/035/61/000/006/016/044

A001/A101

3,1510

Authors: Boyko, P.N., Livshits, G.Sh., Toropova, T.P.

TITLE: Projector studies of scattering indicatrices

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 6, 1961, 27, abstract 6A232 ("Izv. Astrofiz. in-ta AN KazSSR", 1959, v. 8, 98-107, Engl. summary)

TEXT: The authors describe the results of studies of light scattering indicatrices at a wavelength of λ 5200 in the atmosphere layer near the ground, which were performed at the observatory of the Astrophysical Institute, AS KazSSR, (1,450 m above sea level). Equipment consisted of a projector installation producing a uniform parallel light beam and an electric photometer for determining scattered light at various angles. The optical diagram of the installation is presented. In measuring scattered beams, the brightness of a standard screen with known albedo illuminated by direct light from the projector was determined (this permitted determinations of absolute scattering indicatrices). Observations have shown that elongation degree of indicatrices varies considerably, even from day to day. A table of indicatrices is presented determined at different meteorological

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A001/A101

Projector studies of scattering indicatrices

conditions, which shows deviation of light scattering from the Rayleigh law. Deviations are most pronounced at small scattering angles (angle between directions of direct and scattered light). Thus for scattering angle $\theta = 10^\circ$ intensity of scattered light in the real atmosphere exceeded the Rayleigh one by a factor of 5 on April 29, 1957, and on January 22, 1958, by 29 times, whereas at $\theta = 90^\circ$ intensity of scattered light on April 29 differed very slightly from the Rayleigh one and on January 22 it was only 7 times as high as the latter.

G. Livshits

[Abstracter's note: Complete translation]

Card 2/2

24(4), 3(7)

SOV/20-124-4-20/67

AUTHORS: Boyko, P. N., Lifshits, G. Sh., Toropova, T. P.

TITLE: Photoelectric Measurements of the Dispersion Factor
in the Lowest Layer of the Atmosphere (Fotoelektricheskiye
izmereniya indikatrix rasseyaniya v prizemnom sloye atmos-
fery)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 4, pp 803-805
(USSR)

ABSTRACT: The authors carried out the investigations mentioned in the
title by means of projector-measurements in 1957 and 1958
at the Astrofizicheskiy institut Akademii nauk KazSSR (Astro-
physics Institute of the Academy of Sciences, Kazakhskaya SSR).
The brightness of the light dispersed by the air (which was
illuminated by a search-light beam) in various directions
was measured by means of a photoelectric photometer construct-
ed especially for this purpose. The photometer was turned at
various angles θ in the direction of the direct beam. By means
of this photometer the authors determined the relative and
absolute indicatrices of light dispersion. A formula for the
determination of the absolute indicatrix is written down. Ac-
cording to the results obtained by measurements of the relative
dispersion indicatrix the latter's longitudinal shape varies

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Photoelectric Measurements of Dispersion Factor in the Lowest Layer of
the Atmosphere

from day to day. A figure shows examples of such indicatrices. Also in winter rather long-stretched dispersion indicatrices may be observed. A table shows the results obtained by determining the absolute indicatrices for some dispersion angles. From the data contained in the table it may easily be seen to what extent the dispersion of light in the lower layers of the real atmosphere differs from Rayleigh dispersion. Some numerical data are given. There are 1 figure, 1 table, and 2 Soviet references.

ASSOCIATION: Astrofizicheskiy institut Akademii nauk KazSSR
(Astrophysics Institute of the Academy of Sciences, Kazakh-
skaya SSR)

PRESENTED: October 24, 1958, by V. G. Fesenkov, Academician

SUBMITTED: October 24, 1958

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S/031/61/000/002/003/003
A161/A133

6.3000 (2105,2605,1051,1106)

AUTHOR: Livshits, G. Sh.

TITLE: The theory of light diffusion and sky brightness

PERIODICAL: Vestnik Akademii nauk Kazakhskoy SSR, no. 2, 1961, 98 - 99

TEXT: The theory of light diffusion in the terrestrial atmosphere can be verified by comparisons of theoretical data and practical observations of the brightness of a cloudless day sky. But an exact comparison is difficult, for the theory must take into account all factors affecting the light in the real atmosphere. The main factors are: 1) multiple diffusion; 2) reflection from the earth; 3) the earth curvature; 4) variation of the diffusing capacity of air with altitude; 5) "pure" absorption; 6) polarization. It is obvious that the sky brightness must be measured in absolute units, and this means that observations must be standardized. The author conducted for a long time such measurements using a photoelectric photometer that had been described in detail previously (by G. Sh. Livshits, 1957), and a spectro-electrophotometer put at his disposal by P. N. Boyko of the Astrofizicheskiy institut AN KazSSR (Astrophysics Institute of AS KazSSR) and described by P. N. Boyko. The observation results were com-

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The theory of...

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pared with theoretical calculations carried out at the Institut fiziki atmosfery AN SSSR (Institute of Physics of the Atmosphere AS USSR) (by Ye. M. Feygel'son, M. S. Malkevich, S. Ya. Kogan and others, in 1957; Ye. M. Feygel'son, 1958). The theory took into account the multiple diffusion and reflection of light from an underlayer's surface. The variation of the indicatrix with altitude was taken into account approximately, considering a two-layer atmosphere. Apart from this, data of calculations published in the book "Atmosfera zemli i planet" ("The atmospheres of the earth and planets", 1955) and data of Ye. V. Pyaskovskaya-Fesenkova (1957) were employed. The theories did not consider the spherical shape of the earth. As was proved by the author (1957), the intensity of diffused light in the almucantar of sun does not depend on the distribution of the diffusion functions with altitude and is determined with one general, summary indicatrix. Ye. V. Pyaskovskaya-Fesenkova proved that the real indicatrix shape may be ignored and it may be assumed spherical for a sky point at $\phi = 57^\circ$ from the sun. This assumption makes possible a comparison of theoretical and practical data in these points if the real and the theoretical indicatrix is not same. The terrain albedo (q) was assumed 0.2, judging by brightness in winter ($q = 0.8$) and summer, and by data of Ye. L. Krinov (1947). Interpolation was used where this was possible with certainty. The results of a comparison of the theoretical and observed values are given

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The theory of...

in the table, where B_T are the theoretical and B_H the observed sky brightness values in absolute $3/2$ units (S is the sun constant). The results apply to points at $\gamma = 57^\circ$ and $q = 0.2$. The table includes zenith sun distances (Z_\odot), zenith distances Z of the sky points being observed, and optical depths (τ). The last column gives the ratio $\Delta B = B_T - B_H$ to B in %. The errors of observations are within 3 - 4%. The theoretical values are given with an accuracy up to 1%. As can be seen, the real brightness is lower than the theoretical one as a rule, and the difference decreases with increasing τ . Some non-uniform turbidity of the sky is possible at $\tau = 0.4$, and this might have caused the inverse effect in series 28, 29 and 32. The discrepancy of observations from the theory is apparently due to the fact that pure absorption was not considered in the theory. The role of polarization is much less significant in this respect, and same applies to refraction and heterogeneity of underlaid surface. The total optical depth consists of two components: diffusion (τ_p) and absorption (τ_n). The ratio of τ_p to τ_n may be found by calculations analyzed by the author in 1958. It turned out that τ_n is nearly equal at all τ , and is approximately 0.03. This is obviously due to independence of τ_n from wave length λ . Pure absorption (or simply screening produced by large particles) depends only little on λ . This explains why the theory approaches the observations with increasing τ . A comparison of the theory

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The theory of...

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with observations was carried out in 1957 by Ye. V. Pyaskovskaya-Fesenkova using the author's data and Ye. S. Kuznetsov's theory. The reflection from the underlying surface was not considered, and even so the observed sky brightness was lower than the theoretical. It is obvious that the pure absorption factor must by all means be considered in calculations of sky brightness in the visual range, and particularly at low τ . The τ_n value can vary with atmospheric turbidity. The indicated $\tau_n = 0.03$ is characteristic for high transmittance (of the order $\tau = 0.2$ at $\lambda = 550 \text{ m}\mu$) in cloudless days in mountainous terrain. There is 1 table.

№ серии Series	Z_{\odot}	Z	τ	B_T	B_n	$\Delta B/B_n, \%$
1	60	60	0.10	0.115	0.085	35
2	.	40	0.13	0.093	0.072	29
3	.	60	.	0.140	0.107	31
4	.	70	.	0.196	0.149	32
5	.	40	0.14	0.101	0.080	26
6	.	60	.	0.150	0.119	26
7	.	70	.	0.208	0.166	25
8	70° 40'	70° 40'	0.2	0.233	0.206	13
9	71° 30'	61° 30'	.	0.143	0.152	14
10	68° 35'	68° 35'	.	0.225	0.189	19
11	67° 48'	5° 48'	.	0.166	0.141	18
12	66° 53'	56° 53'	.	0.172	0.141	22

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3.5/50

S/035/62/000/007/026/083
AC01/A101

AUTHOR: Livshits, G. Sh.

TITLE: Basic properties of light scattering indicatrices in terrestrial atmosphere

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 7, 1962, 32, abstract 7A244 ("Izv. Astrofiz. in-ta. AN KazSSR", 1961, v. 12, 104 - 110; English summary)

TEXT: A new interpolation formula is proposed for describing diverse forms of light scattering indicatrices in atmosphere. Some basic characteristics of indicatrices, which were previously established directly from observations, can be deduced from this formula.

From author's summary

[Abstracter's note: Complete translation]

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LIVSHITS, G.Sh.

Basic characteristics of the indicatrices of light scattering
in the atmosphere. Izv.Astrofiz.inst.AN Kazakh.SSR 12:104-110
'61. (MIRA 14:12)

" (Light-Scattering)
(Atmosphere)

LIVSHITS, G.Sh.

Some results of the electrophotometry of clear day sky.
Izv.Astrofiz.Inst.AN Kazakh.SSR 2:131-143 '56. (MIRA 15:9)
(Atmosphere)
(Photoelectric measurements)

LIVSHITS, G.Sh.

Some consequences of the brightness formula for day sky.
Izv.Astrofiz.inst.AN Kazakh.SSR 2:144-149 '56. (MIRA 15:9)
(Atmosphere)

LIVSHITS, G.Sh.

Determining corrections for the reflection in the tables of
the luminosity of a cloudless day sky. Izv.Astrofiz.inst.
AN Kazakh.SSR 2:150-153 '56. (MIRA 15:9)
(Atmosphere)

S/913/62/003/000/006/033
D405/D301

AUTHOR: Livshits, G.Sh.

TITLE: Intensity of scattered atmospheric radiation
(Comparison of theory with observation)

SOURCE: Akademiya nauk Kazakhskoy SSR. Astrofizicheskiy
institut. Trudy. v. 3, 1962. Rasseyaniye i polya-
rizatsiya sveta v zemnoy atmosfere; materialy
Soveshchaniya po rasseyaniyu i polarizatsii sveta
v atmosfere. 51 - 56

TEXT: Theoretical calculations of the intensity of
scattered radiation are compared with brightness observations of
a diurnal clear sky. The observations were conducted (at different
atmospheric conditions and optical thicknesses) at the observatory
of the Astrophysical Institute of the AS Kazakh SSR (h = 1450 m); in
the region of the Great Alma-Ata Lake (h = 2900 m), and at the
Pugachev Makhorsovkhov of Saratov region (h = 100 m). The observa-
tions were conducted both in the visible- and infrared spectral
regions by means of a photoelectric photometer and a spectroelectro-
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Intensity of scattered ...

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D405/D301

photometer. The theoretical data were taken from H. van-de-Hulst, Ye. S. Kuznetsov and others. The comparison showed that the actual sky brightness is generally lower than the calculated one (for optical thickness values equal to 0.1 0.2, 0.3, and 0.4). In conducting the observations, special care was taken to eliminate the influence of a number of factors (such as altitude variations of the scattering function, etc.). The observed discrepancy between theory and observation is apparently due to absorption. In conclusion it is noted that a more exact analysis of the effect of pure absorption, and in particular of the role of the various components (ozone, aerosols), requires that the dependence of the albedo q on wavelength be taken into account. There are 8 tables.

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S/913/62/003/000/007/033
D405/D301

AUTHOR: Livshits, G. Sh.

TITLE: Determination of scattering function of light
in the Earth's atmosphere with allowance for
multiple scattering and pure absorption

SOURCE: Akademiya nauk Kazakhskoy SSR. Astrofizicheskiy
institut. Trudy. v. 3. 1962. Rasseyaniya i poly-
arizatsiya sveta v zemnoy atmosfere; materialy
Soveshchaniya po rasseyaniyu i polarizatsii
sveta v atmosfere. 57 - 61

TEXT: A new method is proposed for the determination
of the scattering function of light. The method is based on the
assumption that the ratio of first-order brightnesses B_{10}/B_{1m} ,
calculated with- and without allowance for absorption, is equal
to the corresponding ration of total brightnesses. This is to be
expected, since the role of absorption in the visual region of the
spectrum is small and first-order scattering is predominant. The

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Determination of scattering ...

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D405/D301

above relationship does not involve an error of more than 3 - 4 % in the determination of μ (i.e. it does not exceed the observation error). Further, a formula is derived which can be used in practice for the determination of the scattering function. The method was checked by theoretical calculations. The values of the scattering function, obtained by the new method, were compared with the theoretical scattering function. It was found that the new method yields a much more accurate result. The method is advantageous since it enables to obtain a "pure" scattering function, i.e. which is free of the influence of higher-order scattering, ground reflection and pure absorption. The method is illustrated by an example involving the determination of the scattering function on the basis of observations conducted in the fall of 1952. There are 2 figures and 1 table.

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LIVSHITS, G.Sh.

Absorption of light in the atmosphere in the visual spectral region. Trudy Astrofiz. inst. AN Kazakh.SSR 4:102-108 '63.

Scattering of light in the atmosphere for an anisotropic underlying surface. 109-113

Calculating the intensity of light scattered in the atmosphere of the spherical earth. 114-119 (MIRA 16:11)

L 52764-65

ACCESSION NR: AT5011168

cases of intersection of the real indicatrix with the spheroidal indicatrix is plotted along the curves for different angles of scattering χ , plotted along the curves of the graph with one arrow indicating 270 indicatrix, etc, 205 of which is in the same direction as the 270 graph arrow is the same as the 270 graph arrow.

intersect. This gives a basis for comparing the theoretically computed and observed sky brightnesses for angular distances from the sun close to 57° . It is shown that a precise theory should take into account radiation absorption in the visible region of the spectrum. Comparison of theory and observations made it possible to separate the optical thicknesses of scattering and absorption. Using the mean data on the dependence of albedo for an area and optical thickness on wavelength it is possible to find its albedo value for each value of optical thickness. An observed discrepancy between theory and observations can be attributed to the absorption of light by aerosols. It is shown that with increasing height above the earth's surface, the role of the optical absorption increases and can be taken into account in the theory made without taking into account light absorption for heights of about 10 km. The data differ from observations in several points. The data are given in figures and 1 table.

Card

2/4

L 52764-65

ACCESSION NR: AT6011168

ASSOCIATION: Pedagogicheskly Institut, Alma-Ata (Pedagogical Institute)

SUBMITTED: 25Nov64

ENCL: 01

SUB CODE: ES

NO REF SOV: 008

OTHER: 001

Card 3/4

L 52764-65

ACCESSION NR: AT5011168

ENCL: 01

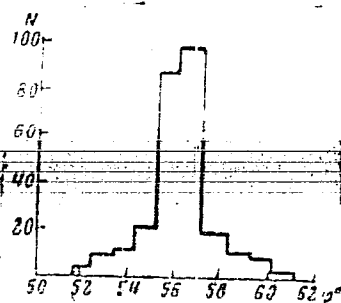


Fig. 1. Analysis of data on the intersection of real and spherical indicatrices.

Card

4/4

LIVSHITS, G.Sh.; FESENKOV, V.G., akademik, red.; IDLIS, G.M., doktor fiz.-matem.nauk, zamestitel' red.; PYASKOVSKAYA--FESENKOVA, Ye.V., doktor fiz.-matem.nauk, red.; ROZHKOVSKIY, D.A., doktor fiz.-matem.nauk, red. toma; RUDINA, M.P., kand.fiz.-matem.nauk, red.; ROZHKOVSKIY, D.A., doktor fiz.-matem.nauk, red.

[Light scattering in the atmosphere. Pt.1.] Rasseyanie sveta v atmosfere. Alma-Ata, Nauka. Pt.1. 1965. 176p (Akademiia nauk Kazakhskoi SSR. Astrofizicheskii institut. Trudy, vol.6)
(MIRA 18:5)

L 39378-65 EWC(v)/EWC(t)/ENT(1)/FSC Pa-5/Pi-4 GW

ACCESSION NR: AP5004233

3/10/85/000/001/0021/0026

Author: Lavshina, G. Sh.

TITLE: On the stability of atmospheric optical properties

Source: AV KazUSSR. Vestnik, (no. 1, 1965, p. 1-4)

Subject: atmosphere, sky brightness, atmospheric optical properties, diurnal variation

The stability of the optical properties of the atmosphere is investigated. The stability criterion is proposed, which is based on the stability criterion of the sky brightness. The stability criterion is proposed, which is based on the stability criterion of the sky brightness. The stability criterion is proposed, which is based on the stability criterion of the sky brightness.

The optical properties of the atmosphere are investigated. The stability criterion is proposed, which is based on the stability criterion of the sky brightness. The stability criterion is proposed, which is based on the stability criterion of the sky brightness. The stability criterion is proposed, which is based on the stability criterion of the sky brightness.

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L 39378.65

ACCESSION NR: AP5004233

increases; $P_0 > P > P_H$ if transparency increases as m_0 increases. It is shown that the above method can be used successfully only under relatively strict conditions (- $\ln \mu = 0.1-0.2$). A series of experiments was conducted with a factor μ not exceeding 0.01. In most cases within the limits $0 < \mu < 0.01$, and μ increased with an increase in m_0 . It was found that μ could vary within the limits 0.001-0.01. The results of the series of experiments. This was attributed to the fact that the factor μ is not constant as well as the series of experiments.

REMARKS: 00

ENCL: 00

SUB CODE: ES

NO REP SOV: 002

OTHER: 00

ATD PRESS: 3194

L 10901-67 EWT(1)/EWP(e)/EWT(m)/FCC DS/WJ/RO/GW/WH

ACC NR. AR6033091 SOURCE CODE: UR/0269/66/000/007/0030/0030

23

AUTHOR: Livshits, G. Sh. ; Pavlov, V. Ye. ; Milyutin, S. N.

TITLE: Absorption of light by atmospheric aerosols

SOURCE: Ref. zh. Astronomiya, Abs. 7.51.197

REF SOURCE: Tr. Astrofiz. in-ta. AN KazSSR, no. 7, 1966, 85-90

TOPIC TAGS: aerosol, light absorption, optic thickness, scattered light,
light intensity

ABSTRACT: A laboratory method of separating the optic thickness of scattering .. and absorption which does not require the measurement of indicatrices has been developed. Past and scattered light is registered. The ratio of this sum to the incident luminous flux represents the coefficient of layer transparency which characterizes the extinction caused by pure absorption. An Ulbricht sphere is used in the system of the light collecting element. Light intensity in the visible and IR regions was registered by photomultipliers through interference filters. Absorption in aerosols was calculated during multipole reflection of light from the sphere. Particles of soot, lava, meteorites, graphite, clay, sand, etc., have

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UDC: 525.7

ACC NR: AR6933091

been investigated. The presence of sand, clay, cement, or room dust does not cause a noticeable increase in pure absorption. Soot and coal cinder possess high values of pure absorption. Growth of pure absorption with decrease in wavelength is typical for many aerosols. The Forbes effect and the shallow absorption band in the blue part of the daylight sky spectrum may be caused by this growth. V. Zhuravlev. [Translation of abstract]

SUB CODE: 03/

Cord 2/2 ⁶⁷⁰

LIVSHITS, I., doktor biolog. nauk; GALETENKO, S., starshiy nauchnyy
sotrudnik

Leopard moth control. Zashch. rast. ot vred. i bol. 10 no.7:
18-20 '65. (MIRA 18:10)

1. Nikitskiy botanicheskiy sad, Yalta.

LIVSHITS, I.; YANOVSKIY, L., aspirant.

Tetrahedrons in hydraulic engineering. Mor.flot 17 no.10:30-31
0 '57. (MIRA 10:12)

1.Glavnyy inzhener proyektnoy kontory tresta "Gidromekhanizatsiya"
Ministerstva stroitel'stva RSFSR (for Livshits)
(Hydraulic engineering)

LIVSHITS, I.; MAKAR'YEVSKIY, D.

Setting consolidated work norms in mechanical treatment of sur-
faces. Sots.trud no.3:81-87 № '58. (MIRA 13:3)
(Turning--Production standards)

LIVSHITS, I. (UJ8AB); GLATER, S. (UJ8ABA)

QTN in the Pamirs. Radio no.6:9-10 Je '63. (MIRA 16:7)

1. Starshiy inzh. svyazi Pamirskoy ekspeditsii (for Livshits).
2. Starshiy inzh. po geolizicheskemu oborudovaniyu Pamirskoy ekspeditsii (for Glater).

(Pamirs--Radio operators)
(Pamirs--Amateur radio stations)

LENTSNER, A.A.; LIVSHITS, I.A.; SPIVAK, Ye.A.; SHOKHOVA, O.M. (g.Tartu)

Change in sensitivity to antibiotics of Newcastle dysentery
bacillus in the human body before the beginning of treatment.
Antibiotiki 7 no.7:643-646 J1'62. (MIRA 16:10)
(ANTIBIOTICS) (DYSENTERY)

GERTSIGER, L.N.; LIVSHITS, I.A.

Highly sensitive selective amplifier. Prib.1 tekhn. eksp. 6 no.5:
97-99 S-0 '61. (MIRA 14:10)
(Amplifiers (Electronics))

LIVSHITS, I.A.; GERTSIGER, L.N.

Frequency keyed RC generator. Elektrosviaz' 15 no.6:38-41 Je '61.
(Oscillators, Electric) (MIRA 14:6)

VOYEYKOV, Dmitriy Dmitriyevich; GERTSIGER, Leopold Naumovich;
KNYAZEV, Konstantin Konstantinovich; LIVSHITS, Il'ya
Aronovich; ESSENSON, Al'bert Yakovlevich; POPOV, K.K., red.

[Design of low-frequency generators] Konstruirovaniye nizko-
chastotnykh generatorov. [By] D.D.Voeikov i dr. Moskva,
Izd-vo "Energia," 1964. 225 p. (MIRA 17:7)

1ST AND 2ND POINTS		3RD AND 4TH POINTS	
<p>36</p> <p>Determination of alcohol in unrectified butyrene. L. A. Lysytskiy and V. G. Nazarov (Sintet Kautschuk, 1964, 3, No. 3, 36-41).—The material is cooled to 0° and treated 2-3 times with 75 c.c. of 10% aq. NaCl. The resulting salt solution is treated with 60-80 c.c. of 80% KOH and boiled for 30-40 min. MeCHO forms resin and the EtOH is distilled off up to 99° and determined by the sp.-gr. method. Ch. Ana. (c)</p> <p>B-II-1</p>			
<p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p> <p>FROM SYNOPTIC</p> <p>SYNOPTIC</p> <p>SYNOPTIC</p>			

BC

PROCESSES AND PROPERTIES INDEX

A-3

Polymerization. cXIV. Depolymerization of trichloroethane. R. V. Lemmon and J. A. Lemmon (J. Chem. Phys., 1934, 2, 22-23). 60% of (I) is depolymerized to give polymer of active silicon (trichloroethane) (II) and (III), while 40% is converted into trichloroethane. Part of (I) is polymerized under conditions to (C₂H₅)₂ and silicon polymer. The (II) obtained is identical with that formed by polymerization of (II). R. T.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

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PROCESSING AND PROPERTIES INDEX																																																																																																							
<p>Alcohols of the C₄ series found in the by-products of decomposition of ethyl alcohol used in the preparation of divinyl. S. V. Lebedev, I. A. Livshits, A. A. Shul'ts and Z. K. Remiz. <i>Trudy Gosudarst. Opht. Zavoda Siatet. Kachestva, Litera B. IV. Synthetic Rubber</i> 1935, 3 11.</p> <p>The fraction of the condensate b. 114-118° and obtained during the formation of divinyl by the Lebedev method from EtOH consists almost entirely of BuOH and crotonyl alc. This mixt. when hydrogenated in the presence of Pt black yields BuOH. Details of expts. are given.</p> <p>A. A. Bochtlingk</p>																																																																																																							
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LIFSHITS, I. A., ILYINA, S.Y., and REYIN, V. M.

"Polymers, of piperlyene," a paper presented at the 9th Congress on the Chemistry and Physics of High Polymers, 28 Jan-2 Feb 57, Moscow, Rubber Research Inst.

B-3,004,395

Distr: 4E2c(j)/4E4j

7
Properties of piperylene polymers, I. A. Livshits, S. I. H'ina, and V. N. Reikh, Russ. Chem. Revs. 1957, 26, 61.
Rubberlike piperylene polymerization products were obtained by dry polymerization in rubber mills or in water emulsion polymerization, and the emulsion polymers were inferior to Na butadiene rubber. The mechanical properties and the elasticity of the piperylene products of dry polymerization at 143° were superior to those produced in emulsion polymerization. Copolymers of piperylene with 1,3-butadiene, disulfide and N,N-diethylbenzothiazolene disulfide were also prepared. The polymers were characterized by a German standard of vulcanizates. A. M. Shostakov

AUTHORS: Livshits, I. I. Karsheva, L. N. SOV/20-121-3-2/47

TITLE: Polymerization of Higher Diolefines (Polimerizatsiya vysshikh diyevodov i olefodov)

PERIODICAL: Zhurnal Khimicheskoy Fiziki, 1950, Vol. 121, Nr 3, pp. 474-476 (USSR)

ABSTRACT: In recent years in the USSR and the USA (OSHA) isoprene polymers were synthesized which are closer to natural rubber than other types of artificial rubber that had been known up to that time (Refs 1-5). It was necessary to clarify in how far the high stability connected with a high elasticity which characterizes vulcanizates of natural rubber is a characteristic feature of the polymers of other diolefines. For this purpose polymers of a) 2-methyl pentadiene-1,3, of b) 2-ethyl butadiene-1,3 and of c) 2-isopropyl butadiene-1,3 were synthesized. The formation of monomers is briefly described (Refs 6, 7, 8) and their constants are mentioned. Metallic lithium was used for the polymerization. The reaction took place at 50-100°. It was carried out to a degree of 98-100%. According to table 1 the polymerization of the monomers b) and c) proceeds

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Polymerization of Higher Dioléfines

707/20-121-3-22/47

with a satisfactory rapidity. The existence of monomers in the molecule of a) the methyl group in 1-position to the double bonding slows down the process of polymerization. The obtained polymers vary greatly with respect to the temperature of vitrification (Table 2). It is relatively high in the case of the product obtained from the monomer a) where each member attached to the position 1,4 receives 2 methyl groups. In the case of product c) the temperature is lower and in the case of the product obtained from b) it is lowest. With respect to the strength of the vulcanizates obtained from not filled mixtures the polymers of a) and b) do little vary from polyisoprene. It is true, however, that the elasticity of polymers obtained from a) is small (Fig 1). In this respect there is no difference between the polymer obtained from c) and polyisoprene. Polyethyl butadiene rubber exceeds isoprene rubber concerning its resistance to frost. There are 1 figure, 2 tables, and 11 references, 4 of which are Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S.V. Lebedeva
(All-Union Scientific Research Institute of Synthetic Rubber
im. S.V. Lebedev)

Card 2/3

5 (3)

AUTHORS: Titov, A. P., Livshits, I. A.

SOV/79-29-5-12/75

TITLE: Influence Exercised by the Structure of Olefins Upon Their Activity in the Reaction of Chain Transfer in the Polymerization Process (Vliyanie stroeniya olefinov na ikh aktivnost' v reaktsii perodachi tsapi v protsesse polimerizatsii)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 5, pp 1605-1611 (USSR)

ABSTRACT: Styrene was dissolved in 16 olefins of different structure and then polymerized. The constant K of the chain transfer was determined according to the formula of F. R. Mayo (Ref 3) for each olefin. Further, that part of K was calculated which falls to the share of an active hydrogen atom, bound to a primary, secondary or tertiary carbon atom. The quantities of K are given in tables 1 and 2. The following regularity was observed: The activity of olefins depends on their structure. The mobility of the hydrogen atom is the least in primary, higher in secondary, and the highest in tertiary carbon atoms which are in α -position with respect to the double bond. With increasing number of substituents on the carbon atoms of the double bond the activity both of the entire olefin molecule

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Influence Exercised by the Structure of Olefins Upon 307/79-29-5-42/75
Their Activity in the Reaction of Chain Transfer in the Polymerization
Process

and of the individual hydrogen atoms bound to the α -carbon atom increases. If the substituents are placed on both sides of the double bond, the activity of the olefin is somewhat higher than with unilateral substitution only. The olefins react more actively than the corresponding saturated hydrocarbons. A comparison with previous experiments on butadiene-sodium (Refs 1,2) shows that the change of activity varies in the various types of polymerization. The authors investigated the polymerization of styrene with 2-methyl-propene-1, 2-methyl-butene-1, 2-methyl-butene-2, 2-methyl-pentene-2, butene-2, pentene-2, pentene-1, 3-methyl-butene-1, hexene-1, 4-methyl-pentene-2, and 2,3-dimethyl-butene-2. In the experimental part the physical data of the initial substances (Table 3), the device (Fig 1), and the method of polymerization are described. Diagrams represent: figure 2 - the kinetics of the polymerization of styrene in dependence of the reaction time, figures 3, 4 and 5 - diagrams on the determination of the transfer constants of alkenes of various constitutions. Table 4 gives the physical data of the

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Influence Exercised by the Structure of Olefins Upon SOV/75-29-5-12/75
Their Activity in the Reaction of Chain Transfer in the Polymerization
Process

polymerization reaction with iso-olefins, table 5 the same
for n-olefins. There are 5 figures, 5 tables, and 17 references,
6 of which are Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo
kauchuka im. G. V. Lebedeva (All-Union Scientific Research
Institute for Synthetic Rubber imeni G. V. Lebedev)

SUBMITTED: May 4, 1958

Card 3/3

89595

S/138/60/000/011/001/010

A051/A029

15.8102

AUTHORS: Livshits, I.A., Reykh, V.N., Ryazantsev, K.P., Salnis, K.Yu., Samoletova, V.V., Stepanova, V.I., Shlifer, D.I.

TITLE: The Properties of Copolymers of Ethylene and Propylene

PERIODICAL: Kauchuk i rezina, 1960, No. 11, pp. 1-5

TEXT: The authors list data on the properties of СМЭП (SKEP), one of the ethylene and propylene copolymers synthesized at the VNIISK. It is pointed out that research in the field of polymerization of ethylene hydrocarbons at the VNIISK was begun in 1956. It is stated that the indicated copolymers can be produced within a wide range of molecular weights. The hardness of the polymers, according to Defoe, is 1,400-5,000 g, characteristic elasticity of their solution is from 2.5 (and lower) to 9.0. The vitrification point of the SKEP copolymer is within the range of -50 to 70°C depending on the ratio of the ethylene and propylene. The SKEP copolymers are a dense white hard mass, comparatively easy to process on the rollers. Destruction occurs when they are processed mechanically on the rollers. The greatest destruction is observed in polymers with a high

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A051/A029

The Properties of Copolymers of Ethylene and Propylene

molecular weight (Table 1). Mixtures based on SKEP copolymer were prepared on laboratory rollers at a temperature of 50-60°C. It was found that SKEP copolymers are easily mixed with comparatively large quantities of fillers. Mixtures without softeners are dry, brittle, their surface resembling ~~dagreen~~ leather. During vulcanization they easily form a monolithic mass with a smooth, shiny surface. Vulcanization is carried out at 150-160°C. SKEP copolymer-based mixtures are characterized by a large vulcanization plateau (Fig. 1). The vulcanizates of non-filled mixtures based on the ethylene and propylene copolymer have a low tear-resistance. When a filler is added, especially gaseous channel carbon black and active furnace carbon black of the XAΦ (KhAF) type, the tear-resistance increases significantly. Vulcanizates containing one of the indicated carbon blacks in a quantity of 50 weight parts hardly differ in this index from similar vulcanizates based on natural rubber (Fig. 2). The physico-mechanical properties of carbon black vulcanizates based on SKEP copolymers depend on the molecular weight of the latter. A detailed study of the physico-mechanical properties of the SKEP copolymers was conducted for a mixture containing 45 weight parts of KhAF carbon black. Comparisons were made

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A051/A029

The Properties of Copolymers of Ethylene and Propylene

between these properties and those of the C-23 (S-23) rubber, CHC-30A (SKS-30A) and natural rubber. Gaseous channel carbon black was used as the filler for natural and SKS-30A rubber, which causes optimum stability properties in the indicated rubbers. Vulcanizates of carbon black mixtures based on SKEP copolymer were found to be almost equal to the vulcanizates of similar mixtures based on natural rubber and SKS-30A in their tear-resistance and relative expansion. Higher moduli are obtained at 300% expansion in SKEP vulcanizates by the application of a high standard carbon black (KhAF) instead of channel carbon black. The values of the vulcanizate moduli of the SKEP mixtures may be increased or decreased by using various methods of vulcanization. The SKEP vulcanizate mixtures have lower residual elongations than the natural rubber and SKS-30A vulcanizates. They also have a higher elasticity to recoiling at ordinary and high temperatures, which is explained by the comparatively low content of side groups in the polymer chains. When elevating the testing temperature to 100°C, the tear-resistance dropped in the SKEP vulcanizates to a greater degree than in the natural rubber vulcanizates, although it remained sufficiently

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A051/A029

The Properties of Copolymers of Ethylene and Propylene

high. In this index the experimental SKEP copolymers greatly surpass SKS-30A rubber. Due to the almost complete absence of double bonds in the SKEP copolymer, rubbers based on the latter have a very high aging resistance at 100°C and at 150°C and are better in this respect than natural rubber. SKEP polymers are characterized by low hysteretic losses. In this respect they are almost equal to natural rubber and surpass SKS-30A rubbers significantly. Other valuable properties of the SKEP vulcanizates were found to be their high resistance to crack expansion in repeated bending deformations and a high wear-resistance. The latter surpass the natural rubbers greatly in their tear-resistance and come close to the regularly constructed divinyl rubbers (Ref. 5). Since different types of carbon blacks were used as fillers for SKEP, natural and SKS-30A rubbers, it was assumed that the high wear-resistance of the SKEP vulcanizates was connected with the use of the KhaF carbon black, which renders a higher wear-resistance. Additional experimental testing revealed that the type of carbon black has little effect on the wear-resistance of the vulcanizates of carbon black mixtures in the case of vulcanizates based on natural and SKS-30A rubber

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S/138/60/000/011/001/010
A051/A029

The Properties of Copolymers of Ethylene and Propylene

(Table 4). In conclusion the authors point out that the ethylene and propylene (SKEP) copolymers have a series of valuable physico-mechanical properties and are of great industrial interest. There are 4 tables, 2 graphs, 5 references: 1 Soviet, 3 English, 1 German.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S.V. Lebedeva (All-Union Scientific Research Institute of Synthetic Rubber im. S.V. Lebedev)

X

Card 5/10

LIVSHITS, I.A.; REYKH, V.N.; RYAZANTSEV, K.P.; SALNIS, K.Yu.; SAMOLETOVA,
V.V.; STEPANOVA, V.I.; SHLIFER, D.I.; Prinimila uchastiye
IVANOVA, L.S.

Properties of ethylene - propylene copolymers. Kauch. i rez.
19 no. 11:1-5 N '60. (MIRA 11:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo
kauchuka im. S.V. Lebedeva.
(Ethylene) (Propene) (Rubber, Synthetic)

VAVILOV, V.A.; LIVSHITS, I.A.; MAYZEL', B.I.; OKUN', B.TS.

Outfit for flow coat painting with subsequent exposure in vapors
of a solvent. Lakokras. mat. 1 ikh prim. no.6:67-70 '61.

(MIRA 15:3)

(Painting—Equipment and supplies)

23771

S/190/61/003/006/014/019

B11QB208

11.2211 also 2209

AUTHORS: Livshits, I. A., Korobova, L. M.

TITLE: Polymerization of 2-ethyl butadiene-1,3

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 3, no. 6, 1961, 891 -
- 897

TEXT: The present study deals with the influence of some initiators on rate and properties of polyethyl butadienes, and with the effect of the polymerization temperature on their structure and properties. The monomer freed from oxygen traces was kept over lithium butyl at -20°C for 20 min and then polymerized in hexane (ratio hexane/monomers = 80/20 parts by volume) at 0, 20, 50 and 100°C . When studying the influence of the polymerization temperature upon the polymer properties the ratio lithium butyl / monomer = 1 : 1000. when testing the physico - mechanical characteristics, 1 : 4000. The following was determined: 1) intrinsic viscosity at 25°C in benzene by Ostwald viscosimeter; 2) molecular

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S/190/61/CC3/CO6/014/019

B1X/B208

Polymerization of ...

weight by means of a ~5 ml glass osmometer with a diaphragm of denitrated nitrocellulose (pore size 1.53 - 2.7 μ) and benzene as solvent according to: $M = RT / (P/c)_{c \rightarrow 0}$; 3) unsaturatedness of the polymers according to T. M. Kolthoff and T. S. Lee (Ref. 6: J. Polymer Sci., 3, 66, 1948); 4) the number of links bound in 1,2 and 3,4 position was determined from the number of $—CH=CH_2$ and $-CR=CH_2$ groups according to M. P. Burgova, A. N. Korotkov (Ref. 7: Izv. AN SSSR, ser. fiz., 14, 452, 1950). 2-ethyl butadiene-1,3 was polymerized in the vapor phase with a catalyst mixture with dispersed lithium, in hexane solution with lithium butyl and dilithium isoprene (first synthesized by G. N. Petrov) as initiator (Table 1). Figs. 1 a and 6 show the reaction rate at a ratio of the monomer: Li catalyst = 4,000 : 1. The physico-mechanical characteristics were studied on microsamples. The unfilled vulcanization mixture was prepared according to the formula for polyisoprene (Ref. 8: S.S. Subbotin, V. V. Samoletova, A. K. Znamenskaya, Khimich. prom-st, 1956, no. 7, 21). According to Table 1, the physico - mechanical properties are not changed by a

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B110/B208

Polymerization of...

slight increase of the length of the alkyl radical (from CH_3 to C_2H_5), higher increase (to C_4H_9) decreases the strength of unfilled mixtures.

According to Table 2, a temperature rise from 0 to 100°C only little affects intrinsic viscosity and molecular weight. Temperature fall from 100°C to 0°C prolongs the reaction time from some minutes to 120 hr. The rubbers were quantitatively tested by means of the absorption band

6114 cm^{-1} (vinyl band), using a diffraction grating with 500 lines/mm. The sum of the links in 1,2 and 3,4 position was determined by means of infrared spectroscopy in the range of C-H vibrations in the first overtone. According to Table 3 a rise of the polymerization temperature of 2-ethyl butadiene-1,3 in the presence of lithium butyl in hexane from 0 to 100°C nearly doubles the links. Similar conditions are found in the polymerization of isoprene and 2-butyl butadiene-1,3. The same rule applies to different methods of polymerizations. Increase of the number of links with rise in temperature. The spectra of polyethyl butadiene obtained on /KC-11 (12S-11) spectrograph disclosed that the polymers obtained by

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Polymerization of...

S/195/61/005/006/014/019
B110/5208

X

polymerization of 2-ethyl butadiene-1,3 with lithium butyl contain no links bound in 1,2 position. There are 2 figures, 4 tables and 13 references: 7 Soviet-bloc and a non-Soviet-bloc. The three most recent references to English-language publications read as follows: Ref. 9: C. S. Marvel, L. R. Williams, H. E. Baumgarten, J. Polymer Sci., 4, 583, 1949. Ref. 12: R. S. Stearns, L. E. Forman, J. Polymer Sci., 41, 381, 1959, Ref. 13: L. Kuntz, A. Gerber, J. Polymer Sci., 42, 299, 1960.

ASSOCIATION: Nauchno-issledovatel'skiy institut sinteticheskogo kauchuka
(Scientific Research Institute of Synthetic Rubber)

SUBMITTED: August 4, 1960

Card 4/9

LIVSHITS, I.A.; IL'INA, S.I.; REYKH, V.N.

Polymerization of butadiene and piperylene mixtures. Kauch.i rez.
20 no.7:1-4 J1 '61. (MIRA 14:6)

1. Veseoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo
kauchuka imeni S.V.Lebedeva.
(Butadiene) (Piperylene) (Polymerization)

LIVSHITS, I.A.; IL'INA, S.I.; REYKH, V.N.

Polymerization of butadiene, piperylene, and styrene mixtures.
Káuch. i rez. 20 no(8:1-3 Ag '61. (MIRA 14:8)

1. Vsesoyuznyy nauchno-issled'vatel'skiy institut sinteticheskogo kauchuka imeni S.V. Lebedeva.
(Butadiene) (Piperylene)

LIVSHITS, I.A.; STEPANOVA, V.I.

Determining 1,2 chains in the polymers of 4-methyl 1,3-pentadiene. Zhur. prikl. khim. 34 no.5:1122-1126 My '61.

(MIRA 16:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut imeni akademika S.V. Lebedeva.

(Polymers) (Pentadiene)

LIVSHITS, I.A.; POLOTSKIY, Yu.S.

Regulation of the concentration of the vapor of solvents by means
of the SGG-2 signaling indicator of combustible gases. Lakokras. mat.
i ikh prim. no.3:75-77. '63. (MIRA 16:9)
(Spray painting—Safety appliances)

12001-01 EPR/ET(j)/EPF(c)/EWT(m)/BDS AFFTC/ASD Ps-4/Pc-4/r-4 RM/WW
 ACCESSION NR: AP3001592 S/0138/63/000/005/0011/0013 76

AUTHOR: Livshits, I. A.; Reikh, V. M.; Salnis, K. Yu.; Sorkina, F. M. 73

TITLE: Properties of chlorinated copolymers of ethylene with propylene 1

SOURCE: Kauchuk i rezina, no. 5, 1963, 11-13

TOPIC TAGS: functional group, high-molecular elastomer, chlorinated copolymer, ethylene-propylene copolymer

ABSTRACT: In the present study the method of catalytic chlorination of ethylene-propylene copolymers was used to obtain materials with a chlorine content of 5.1, 7.9, and 11.0%. These were subjected to various tests, which showed that an increase in chlorine brought about a doubling in hardness, a rise of the vitrification temperature from -55 to -39C, a near doubling of the modulus at a 300% elongation. Lower values were found in the specific elongation, the residual elongation, and in rebound resilience at 20C, while the resistance to tear remained practically unchanged. In a second series of tests, the properties of chlorinated ethylene-propylene copolymers with a 7.5-7.9% chlorine content, with and without reinforcing fillers, were compared with those of a non-chlorinated ethylene-propylene copolymer. The filled vulcanizates from

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ACCESSION NR: AP3001592

3

chlorinated ethylene-propylene copolymer¹⁵ showed a lower modulus and higher specific and residual elongations, while possessing a substantially higher resistance to abrasion and to tear at room temperature. There was no difference in rebound resilience at 20 and 100C. E. R. Dolinskaya participated in the experimental work. Orig. art. has: 3 tables.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S. V. Lebedeva (All-Union Scientific Research Institute of Synthetic Rubber)

SUBMITTED: 00

DATE ACQ: 08Jul63

ENCL: 00

SUB CODE: 00

NO REF SOV: 002

OTHER: 003

Card 2/2

KOROBOVA, L.M.; LIVSHITS, I.A.

2-n-Butyl- and 2-n-propyl-1,3-butadienes. Zhur. ob. khim. 34 no.
10:3419-3421 0 '64. (MIRA 17:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo
kauchuka imeni S.V. Lebedeva.

LIVSHITS, I.A.; PISARSKIY, B.I.

Hydrogeological conditions and the water encroachment of
mineral deposits in the Slyudyanka mining region. Mat. Kom.
po izuch. podzem. vod. Sib. i Dal' Vost. no.2:146-153 '62.
(MIRA 17:8)

LIVSHITS, I.A.; STEPANOVA, V.I.

Polymerization of 4-methyl-1,3-pentadiene. Vysokom.soed. 7 no.1:181
Ja '65. (MIRA 18:5)

(A) L 30704-66 EWT(m)/EWP(j)/T RPL RM/WW

ACC NR: AP5028898

SOURCE CODE: UR/0138/65/000/011/0003/0005

AUTHOR: Livshits, I. A.; Reykh, V. N.; Korobova, L. M.; Mironyuk, V. P.; Nerush,
K. U.; Stepanova, V. I.ORG: All-Union Scientific Research Institute of Synthetic Rubber im. S. V. Lebedev
(Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka)TITLE: Ethylene-propylene copolymers containing unsaturated bonds

SOURCE: Kauchuk i rezina, no. 11, 1965, 3-5

TOPIC TAGS: ethylene, propylene, copolymer, vulcanization

ABSTRACT: The article describes the physicommechanical properties of the SKEPT-1 copolymers, which are ternary copolymers of ethylene, propylene, and an unconjugated diene, and have a small quantity of double bonds. The influence of vulcanization time and degree of unsaturation of copolymers, fillers, and Defo toughness on the physicommechanical properties of SKEPT-1 vulcanizates was studied. The properties depend on the composition of the copolymers: as the content of propylene linkages rises from 35 to 41 mole %, the tensile strength and elasticity of the vulcanizates decrease. Because of the valuable physicommechanical properties of their black-extended vulcanizates, the SKEPT-1 copolymers are of great interest for practical applications in the rubber, tire, and other industries. Orig. art. has: 2 figures and 3 tables.

SUB CODE: 07, 11 / SUBM DATE: none / ORIG REF: 003 / OTH REF: 004

Card 1/1 LS

UDC: 678.742.2-139.004.12

L 44587-66 EWT(m)/T/EWP(j) IJP(c) WW/RM

ACC NR: AP6015665 (A) SOURCE CODE: UR/0413/66/000/009/0074/0074

INVENTOR: Liyshits, I. A.; Nerush, K. U.; Reykh, V. N.; Ryazantsev, K. P.;
Salnis, K. Yu.; Stepanova, V. I.; Shlifer, D. I.

ORG: none

TITLE: Preparation of ethylene-propylene rubber.¹⁵ Class 39, No. 181285¹⁵

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 9, 1966, 74

TOPIC TAGS: rubber, ethylene propylene rubber, copolymerization

ABSTRACT: This Author Certificate introduces a method of preparing ethylene-propylene rubber by copolymerization of ethylene with propylene in an organic solvent at a temperature below 30C in the presence of a complex catalyst consisting of organometallic compounds of the I-III groups and salts of metals of variable valence of the IV--VIII groups. To extend the variety of organic solvents, chlorinated aliphatic hydrocarbons such as carbon tetrachloride, methylene chloride, dechloroethane, or ethyl chloride are suggested. [Translation] [LD]

SUB CODE: 11/ SUBM DATE: 24Oct60/

Card 1/1

UDC: 678.742.2-134.23

Notes on the Planning of Foundries 18
J. B. Livshits, L.
D. I. Prokhorov, 1960 3 11-14 1960 11-14
ence in the operation of large modern foundries is described
as a guide to improved planning. Subjects briefly dealt
with include the replacement of old equipment, material
transport, hopper and bunkers, mechanization.

RB

LIVSHITS, I.G., starshiy prepodavatel'

Economic efficiency of using the new equipment. Tekst.prom. 22
no.1:16-19 Ja '62. (MIRA 15:2)

1. Kafedra ekonomiki i organizatsii tekstil'nykh predpriyatiy
Tashkentskogo tekstil'nogo instituta.
(Textile industry--Costs) (Textile machinery)

LIV VISA, I. I.

USSR/Medicine-Industry and Occupation, Oct 48
Hygiene
Medicine-Aerosol, Effect of

"New Data on the Problem of Aerosol Retention"
During Respiration, I. I. Le Lihavits, Ye. T.
Lykhina, G. S. Krenburg, Dept of Labor Hygiene,
Lab of Aerosols, Leningrad Inst of Labor Hygiene
and Occupational Diseases, 8 pp

"Gig 1 San" No 10

Details experimental results from studies on (1)
Retention and condensation of aerosol during
respiration, (2) aerosol disintegration, and

49/49760

USSR/Medicine-Industry and Occupation, Oct 48
Hygiene (Contd)

(3) relationship between amount of aerosol
retained during respiration and electric charge
of aerosol particles. Tables show extent of
retention of various types of respiration.
Includes two microscopic illustrations.

49/49760

LIVSHITS, I. I.

Coal Mining Machinery

New developments in the mechanization of coal mining. Gor. zhur. No. 9, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952., Unclassified.

LIVSHITS, I. I.

① fuel

Fuel Abst.

Vol. 14 No. 4

Oct. 1953

Natural Solid

Fuels: Winning

2808. Mechanization of Coal Winning in U.S.S.R. (Livshits, I. I. (Bergb. Tech., 1953, vol. 3, 51-56; abstr. in Gluckauf, 6 June 1953, vol. 89, 609)).

LIVSHITS, I.I., kandidat tekhnicheskikh nauk,

Important requirement for the technical progress in the coal industry.
Mekh.trud.rab. 7 no.5:5-9 My '53. (MLBA 6:5)
(Coal mines and mining)

LIVSHITS, I.I., kandidat tekhnicheskikh nauk.

Some basic problems of the development of automatization in the
coal industry. Ugol' 29 no.3:1-4 Mr '54. (MLRA 7:3)

1. Akademiya ugol'noy promyshlennosti. (Coal mines and mining)

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LALAYANTS, A.M., redaktor; ABRAMYAN, A.A., redaktor; GRIBERMAN, I.D.,
redaktor; DOKUKIN, A.V., redaktor; ZASADYCH, B.I., redaktor;
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tekhnicheskii redaktor.

[Material and equipment used in the coal industry] Materialy i
oborudovanie, primeniayemye v ugol'noy promyshlennosti; spravochnik
Moskva, Ugletekhizdat. Vol.1 [Material---Wholesale prices in effect
as of July 1, 1955] Materialy. Pt. 1.1955. 786 p. -- Otpvye tseny,
vvedeniye s 1 iul'ia 1955. g. 192 p. [Microfilm] (MLRA 9:1)
(Coal mining machinery) (Coal mines and mining)

LALAYANTS, A.M., redaktor; ABRAMYAN, A.A., redaktor; GUBERMAN, I.D., redaktor, DOKUNIN, A.V., redaktor; ZASADYCH, B.I., redaktor; IVANENKO, G.I., redaktor; LETOV, N.A., redaktor; MELAMED, Z.M., redaktor; LIVSHITS, I.I., LOKSHIN, V.A., redaktor; MONIN, G.I., redaktor; SUMCHENKO, V.A., redaktor; TOPCHIEV, A.V., redaktor; SHEVALDIN, A.S., redaktor; SIROVA, V.A., redaktor; ANDREYEV, G.G., tekhnicheskiy redaktor; PROZOROVSKAYA, V.L., tekhnicheskiy redaktor.

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Materialy i oborudovanie, primenyaemye v ugol'noi promyshlennosti;
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1955. 544 p. (MIRA 9:5)
(Coal mines and mining--Equipment and supplies)

LIVSHITS, I.I., kandidat tekhnicheskikh nauk; CHERNOV, V.A., inzhener.

Semiconductor devices and their use in coal mining. Ugol'
31 no.11:7-12 N '56. (MLRA 10:2)

(Semiconductors)

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LIVSHITS, I.I.

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redaktor; LETOV, N.A., otvetstvennyy redaktor; LIVSHITS, I.I.,
redaktor; LOKSHIN, V.A., redaktor; MELAMED, Z.M., redaktor; MONIN,
G.I., redaktor; SUMCHENKO, V.A., redaktor. TOPCHIYEV, A.B., redak-
tor; SHEVALDIN, A.S., redaktor; YEGURNOV, G.P., redaktor; LYUBIMOV,
N.G., redaktor izdatel'stva; ANDREYEV, G.G., tekhnicheskiy redaktor;
PROZOROVSKAYA, V.L., tekhnicheskiy redaktor.

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manual] Materialy i oborudovanie, primenyaemye v ugol'noi pro-
mushlennosti; spravochnik. Moskva, Ugletekhisdat. Vol.2. [Equip-
ment] Oborudovanie. Pt.1. 1956. 455 p. (MLRA 10:4)

(Coal mines and mining--Equipment and supplies)

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LALAYANTS, A.M., redaktor; ABRAMYAN, A.A., redaktor; GUBERMAN, I.D., redaktor;
DOKUKIN, A.V., redaktor; ZASADYCH, B.I., redaktor; LETOV, N.A.,
redaktor; LIVSHITS, I.I., redaktor; LOMSHIN, V.A., redaktor; MELAMED,
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redaktor; SHEVALDIN, A.S., redaktor; YEGORNOV, G.P., redaktor;
LYUBIMOV, N.G., redaktor izdatel'stva; PROZOROVSKAYA, V.L., tekhniches-
skiy redaktor

[Materials and equipment used in the coal industry; a reference manual]
Materialy i oborudovanie, primenyaemye v ugol'noi promyshlennosti;
spravochnik. Moskva, Ugletekhizdat. Vol.2. [Equipment] Oborudovanie.
Pt.2. 1957. 485 p. (MLRA 10:9)
(Coal mining machinery)

LIVSHITS
LALAYANTS, A.M., glavnyy red.; ABRAMYAN, A.A., red.; GUBERMAN, I.D., red.;
DOKUKIN, A.V., red.; ZASADYCH, B.I., red.; LETOV, N.A., red.;
LIVSHITS, I.I.; LOKSHIN, V.A.; MELAMED, Z.M.; MONIN, G.I.; SUMCHENKO,
V.A.; TOPCHIEV, A.V.; SHEVALDIN, A.S.; YMGURNOV, G.P., red.;
LYUBIMOV, N.G., red.izd-va; PROZOROVSKAYA, V.L., tekhn.red.

[Materials and equipment used in the coal industry; a handbook]
Materialy i oborudovanie, primenyaemye v ugol'noi promyshlennosti;
spravochnik. Moskva, Ugletekhizdat. Vol.2. [Equipment] Oborudovanie.
Pt.3. 1957. 655 p. (MIRA 11:2)
(Coal mines and mining--Equipment and supplies)

ZVYAGIN, P.Z., kand.tekhn.nauk; LIVSHITS, I.I., kand.tekhn.nauk;
SUDOPLATOV, A.P., doktor tekhn.nauk.

Developing underground coal mining techniques in the U.S.S.R.
Ugol' 32 no.11:31-40 N '57. (MIRA 10:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy ugol'nyy institut (for Zvyagin, Livshits).
2. Institut gornogo dela AN SSSR (for Sudoplatov).
(Coal mines and mining)

LIVSHITS, I.I.

25(1)

PHASE I BOOK EXPLOITATION

SOV/1339

Shifrin, Abram Shmerovich, Boris Gustavovich Levin, Il'ya Iosifovich Livshits, Moisey Isaakovich Pisarevskiy, and Nikolay Aleksandrovich Pefelov

Vysokoproizvoditel'naya kholodnaya obrabotka metallov (Efficient Cold Working of Metals) Moscow, Mashgiz, 1958. 294 p. 7,000 copies printed.

Reviewer: Vul'f, A.M., Candidate of Technical Sciences; Ed. (Title page): Lomachenkov, S.Ye., Engineer; Ed. (Inside book): Morozov, V.D.; Candidate of Technical Sciences; Ed. of Publishing House: Borodulina, I.A.; Tech. Ed.: Pol'skaya, R.G.; Managing Ed. for Literature on Machine Building Technology (Leningrad Division, Mashgiz): Naumov, Ye.P., Engineer.

PURPOSE: The book may be of use to process engineers, machine tool designers and personnel of plant and institute laboratories for metal cutting.

COVERAGE: The book presents the special features of the processes of cutting hard-to-work austenitic and other steel grades. Rational
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Efficient Cold Working (Cont.)

SOV/1339

designs of single-point tools, drills, taps, face milling cutters and cutting regimes for high-productivity machining of these steels are described. Standard methods of conducting investigations of turning, milling and drilling of metals are given along with quick simplified methods for determining metal machinability. Turning, drilling and milling dynamometer constructions are given. Problems of precision thread rolling on thread rolling machines with die rolls are treated. No personalities are mentioned. There are 55 references of which 53 are Soviet, 1 is English and 1 is German.

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3. Face milling of stainless steel (Candidate of Technical Sciences A.Sh. Shifrin)	47

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Efficient Cold Working (Cont.)

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LIVSHITS, I.I., kand.tekhn.nauk

~~Improving the lighting in underground mining. Ugol'~~ 33 no.10:57-59
0 '58. (MIRA 11:11)

(Mine lighting)

DOKUKIN, A.V., prof., doktor tekhn.nauk, red.; KOZIN, Yu.V., inzh., red.;
LIVSHITS, I.I., kand.tekhn.nauk, red.; MEL'KUMOV, L.G., inzh.,
red.; SNAGOVSKIY, Ye.S., kand.tekhn.nauk, red.; GRINSEPUK, L.V.,
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red.; SHKLYAR, S.Ya.

[Automatic control in the coal industry] Avtomatizatsiia ugol'noi
promyshlennosti. Ugletekhnizdat, 1959. 218 p. (MIRA 12:3)
(Coal mines and mining) (Automatic control)